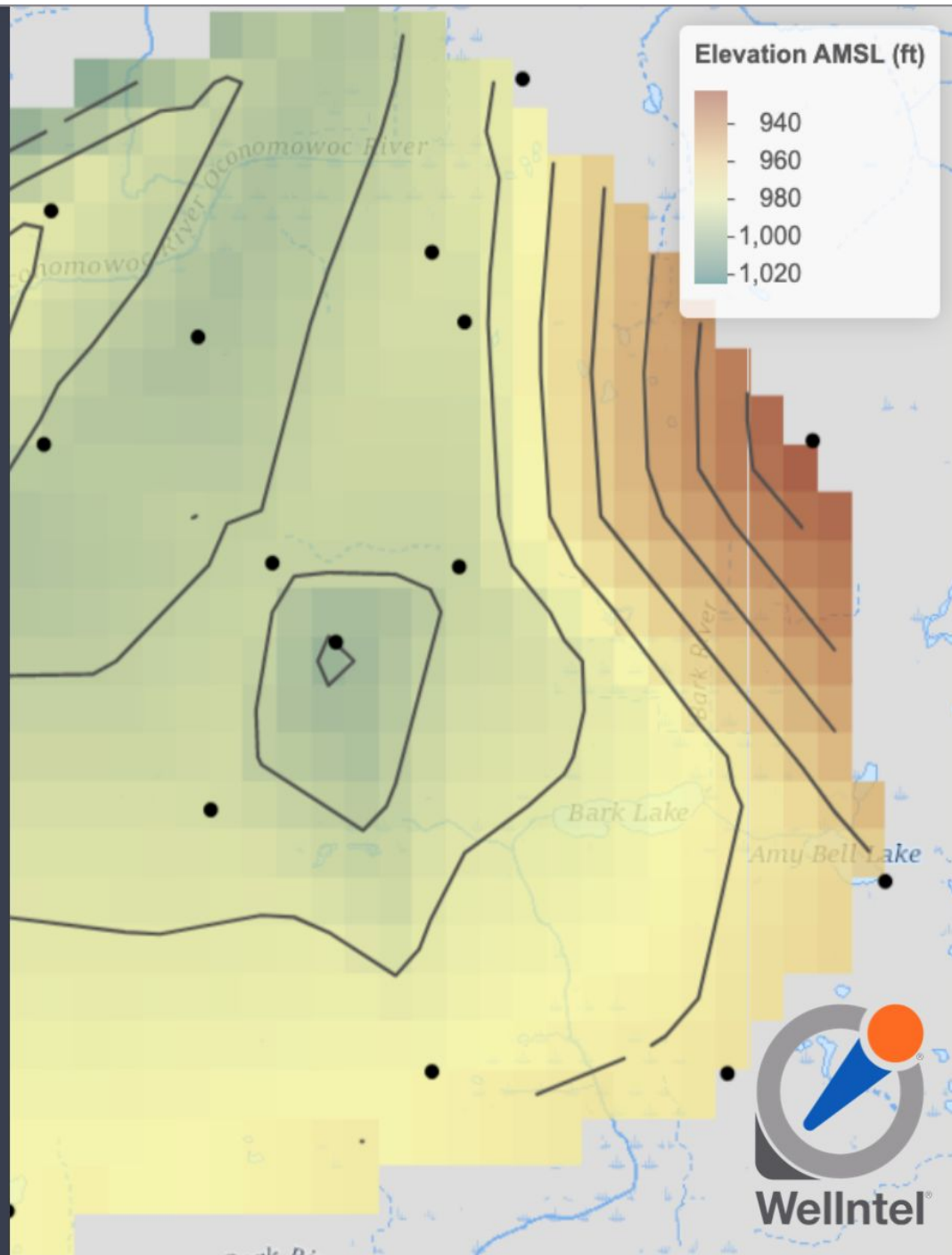


WellIntel®

# KNOW WATER

Powerful Water  
Information System  
enables Sustainable  
Resource Management

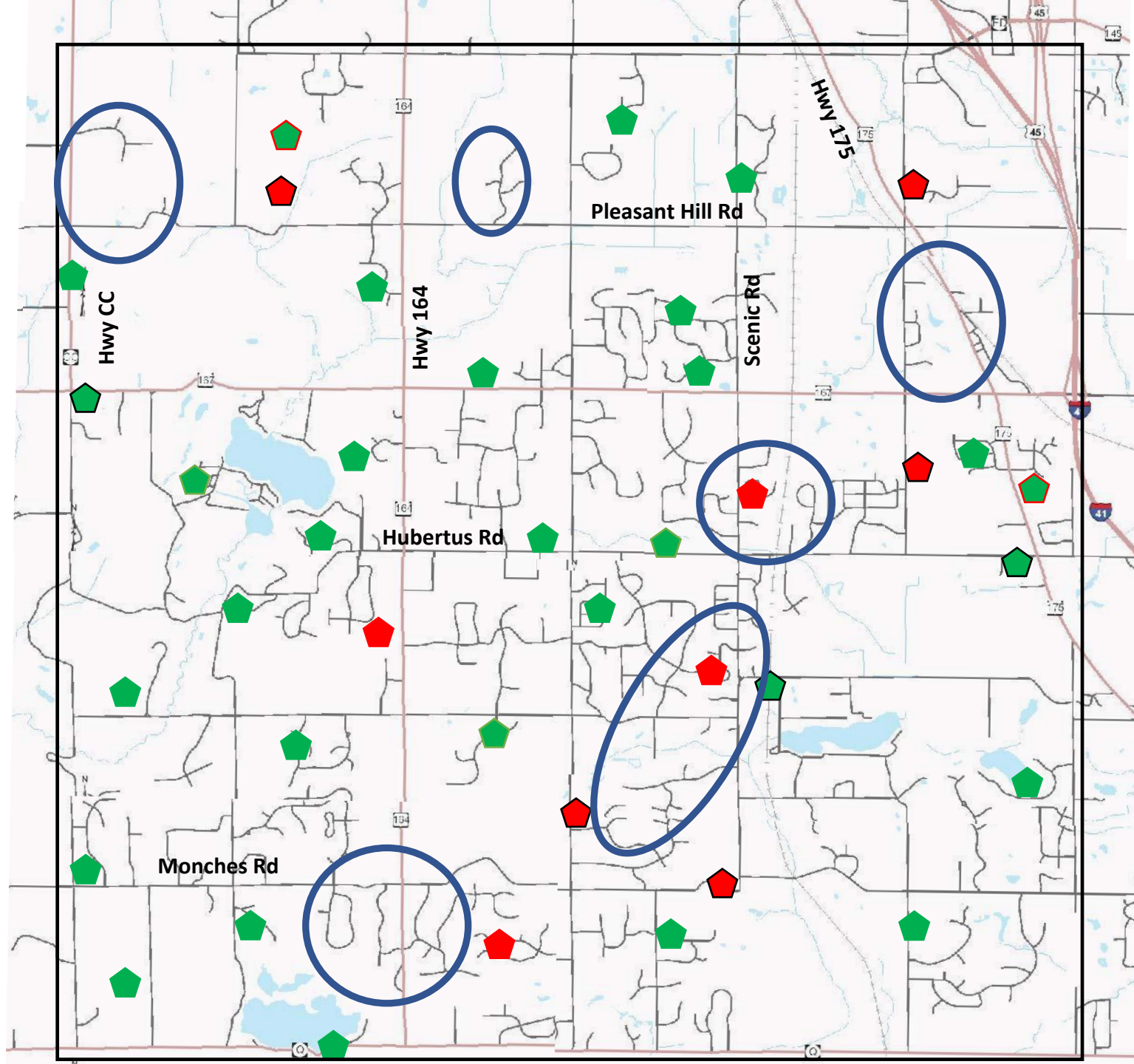


## Groundwater Report to Richfield Village Board

### Status of the Resource 2019

February 27, 2020

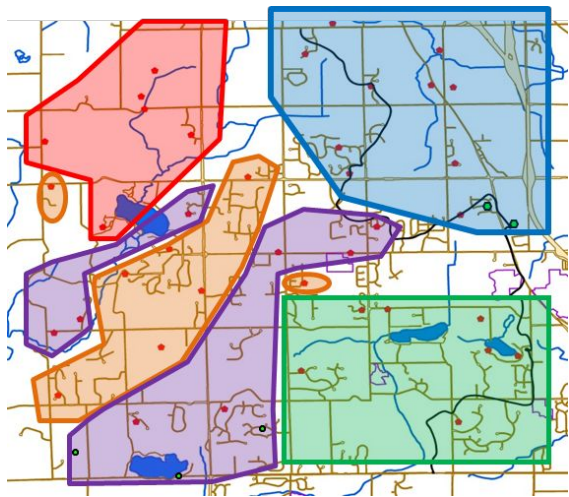
**Jenny Ulbricht**  
WellIntel Technical and  
Operations Manager



## 2020 Richfield Monitoring Array

Automated (29)

Non-automated (9)



Village water level is up an average of ~4.0 feet since 2004

Orange area up 7+ ft.

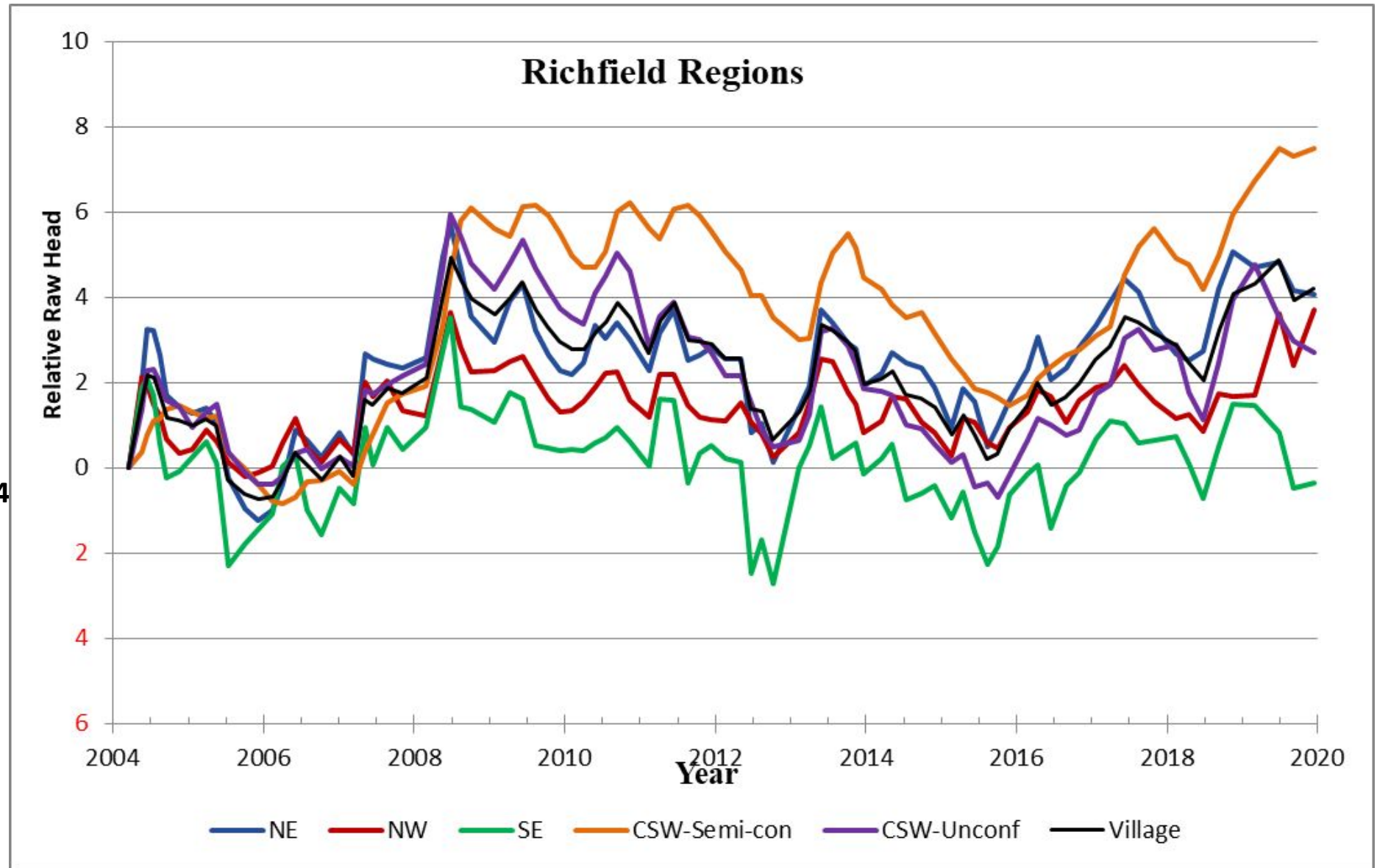
Blue is up 4 ft.

Red is up almost 4 ft.

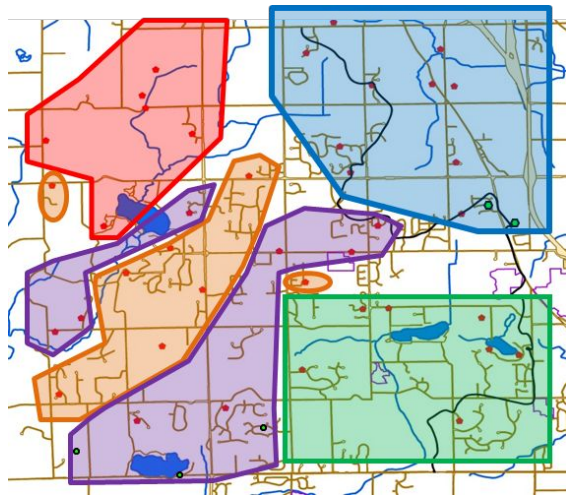
Purple is up almost 3 ft.,

But green is down about 0.5 ft.

But it's difficult to see patterns





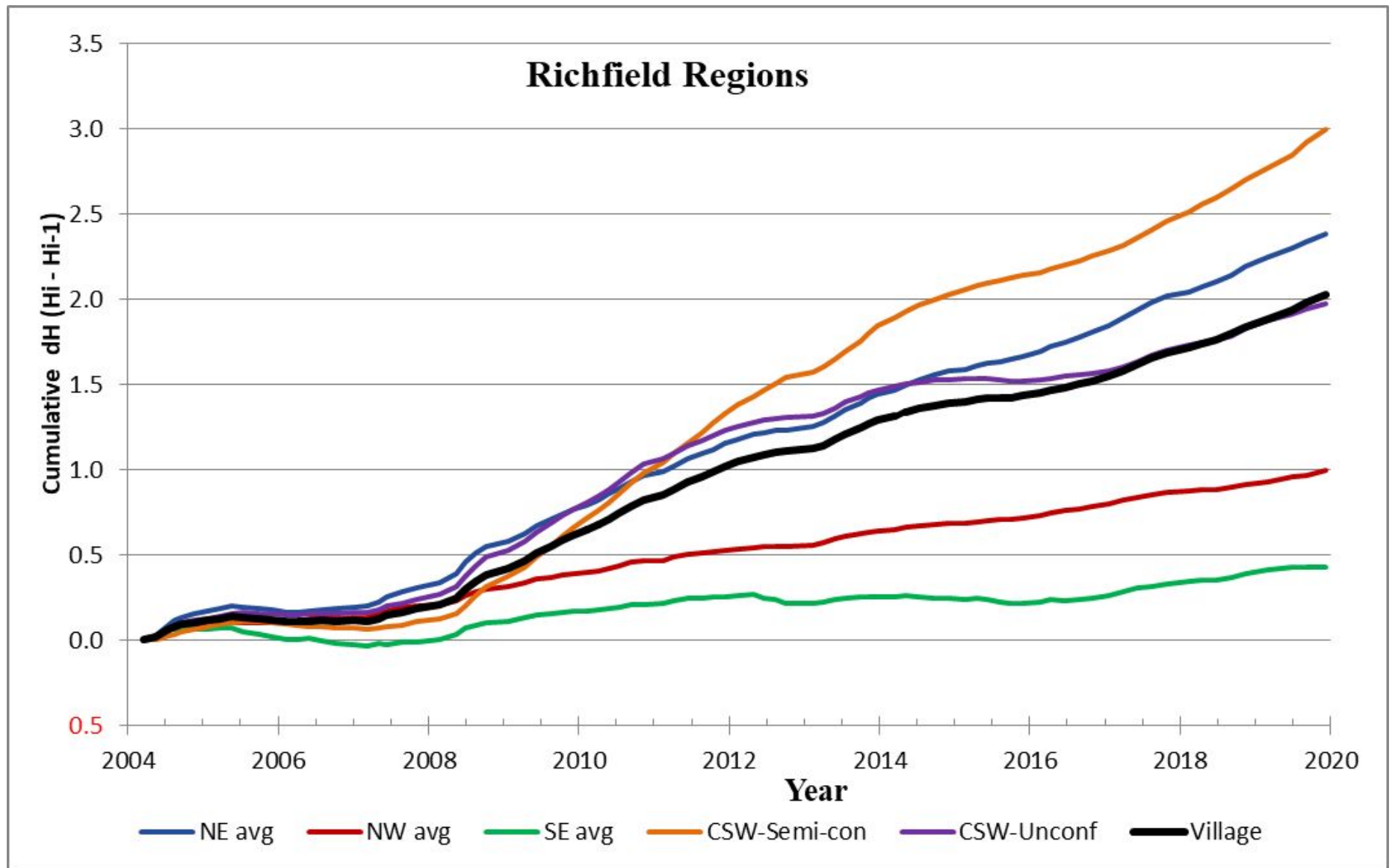


Cumulating each region's change from the starting water levels makes differences more apparent.

Shows 2 things:

Groundwater supply is doing well.

No major concerns. Four areas are increasing, but SE bears watching.



# WATER INFORMATION SYSTEM



## INFORM

Know water and inform sustainable management

**Efficient operations**

**Risk mitigation**

**Compliance**

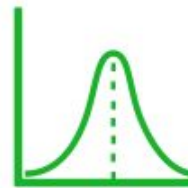
**Sustainability reporting**

**Public-facing messaging**

**Stewardship**

## ANALYZE

Confirm understanding, report in real-time and alert when there is cause.



## COLLECT

Sources include WellIntel and third party sensors, proprietary and public data feeds



**PUMPING AND FLOW**

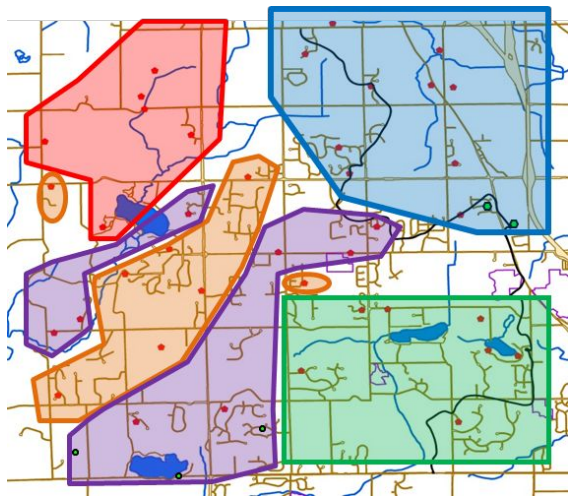


**SURFACEWATER**

**GROUNDWATER**

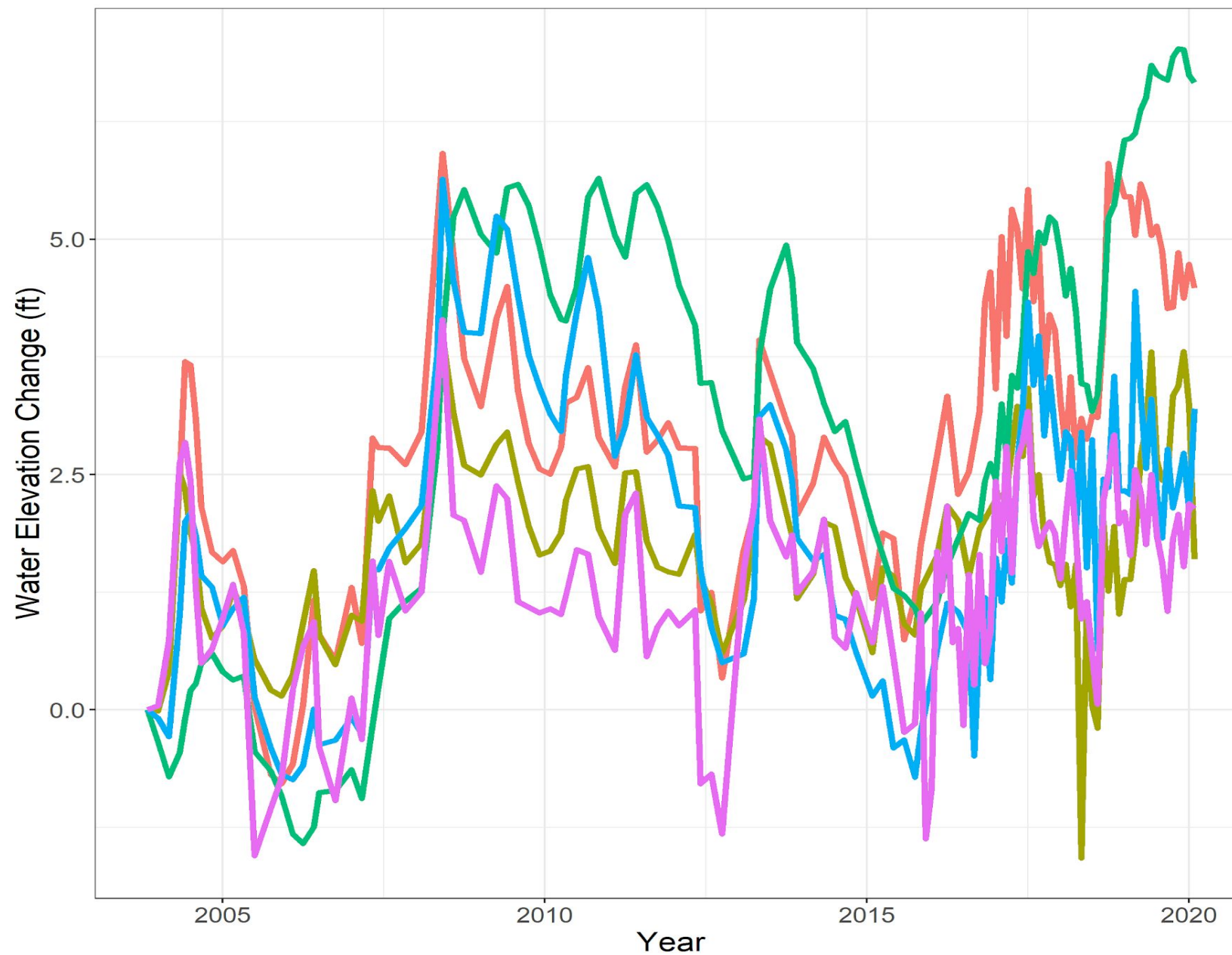


**RAIN AND RECHARGE**

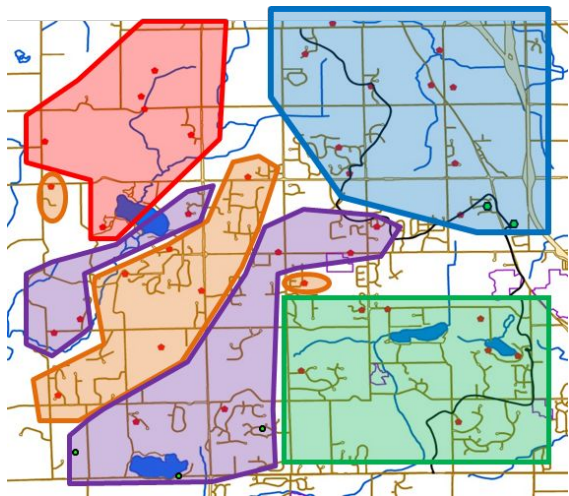


### Region

- Northeast
- Northwest
- Semi-Confined Central Southwest
- Semi-Unconfined Central Southwest
- Southeast

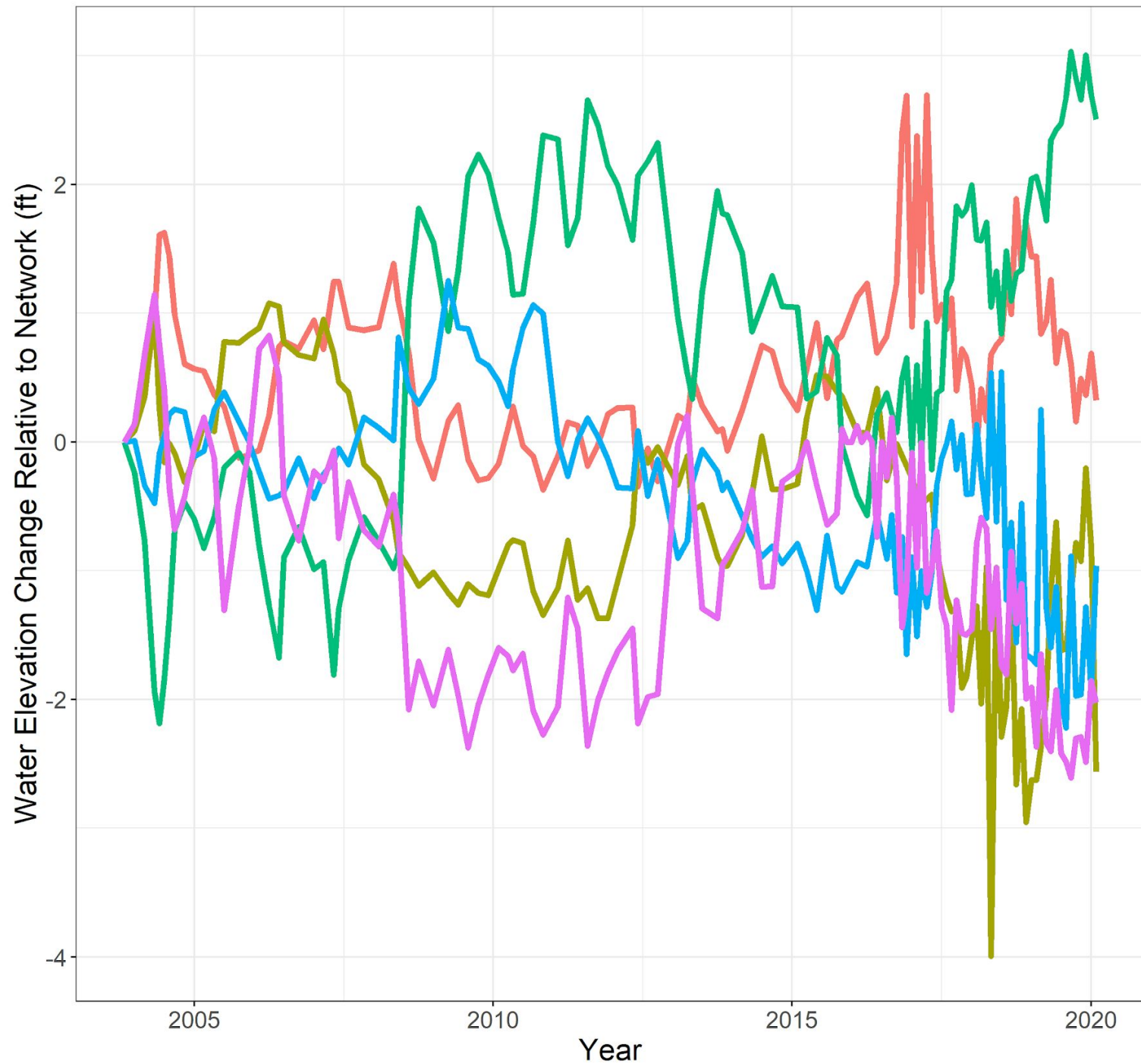






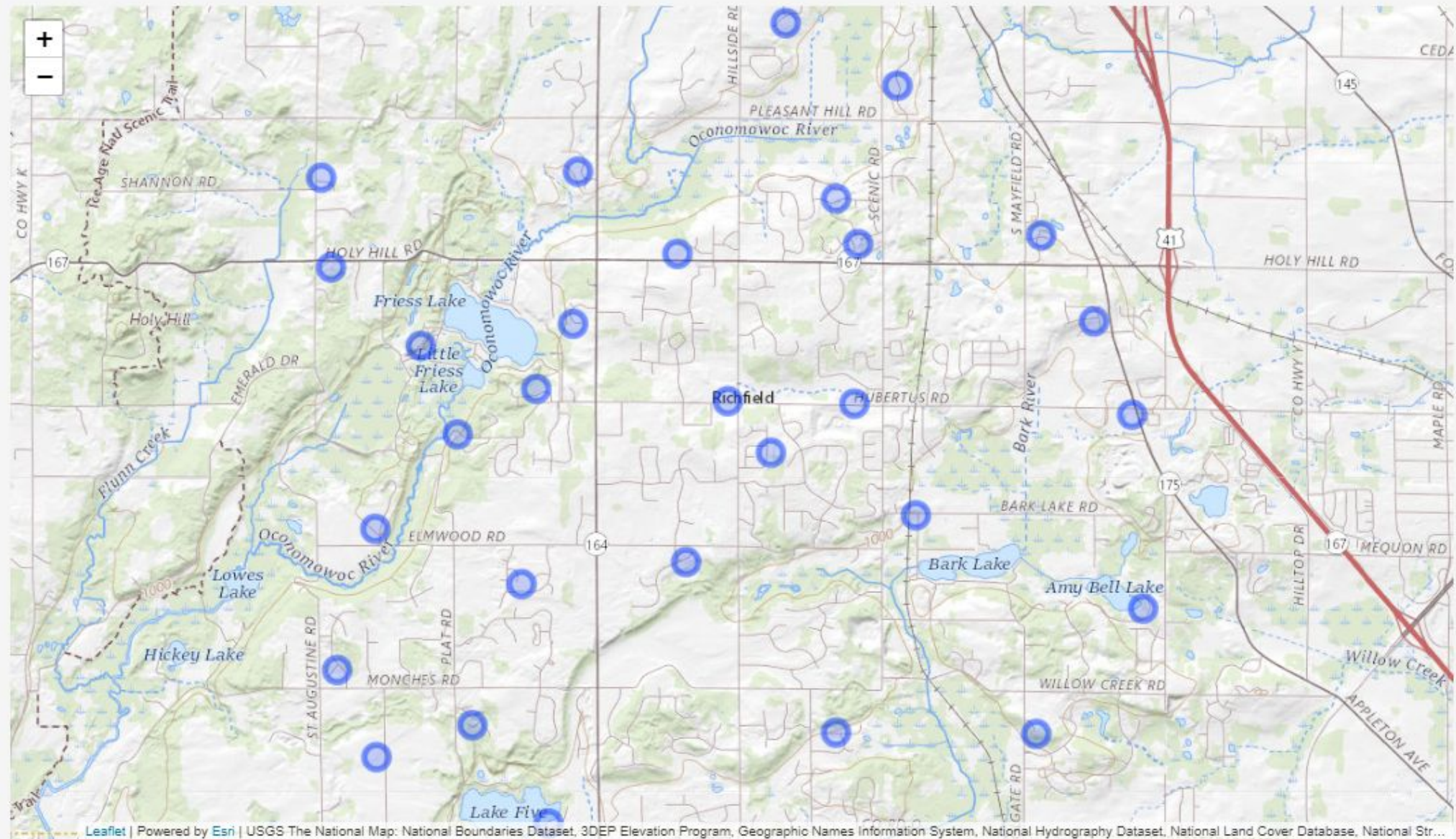
### Region

- Northeast
- Northwest
- Semi-Confined Central Southwest
- Semi-Unconfined Central Southwest
- Southeast



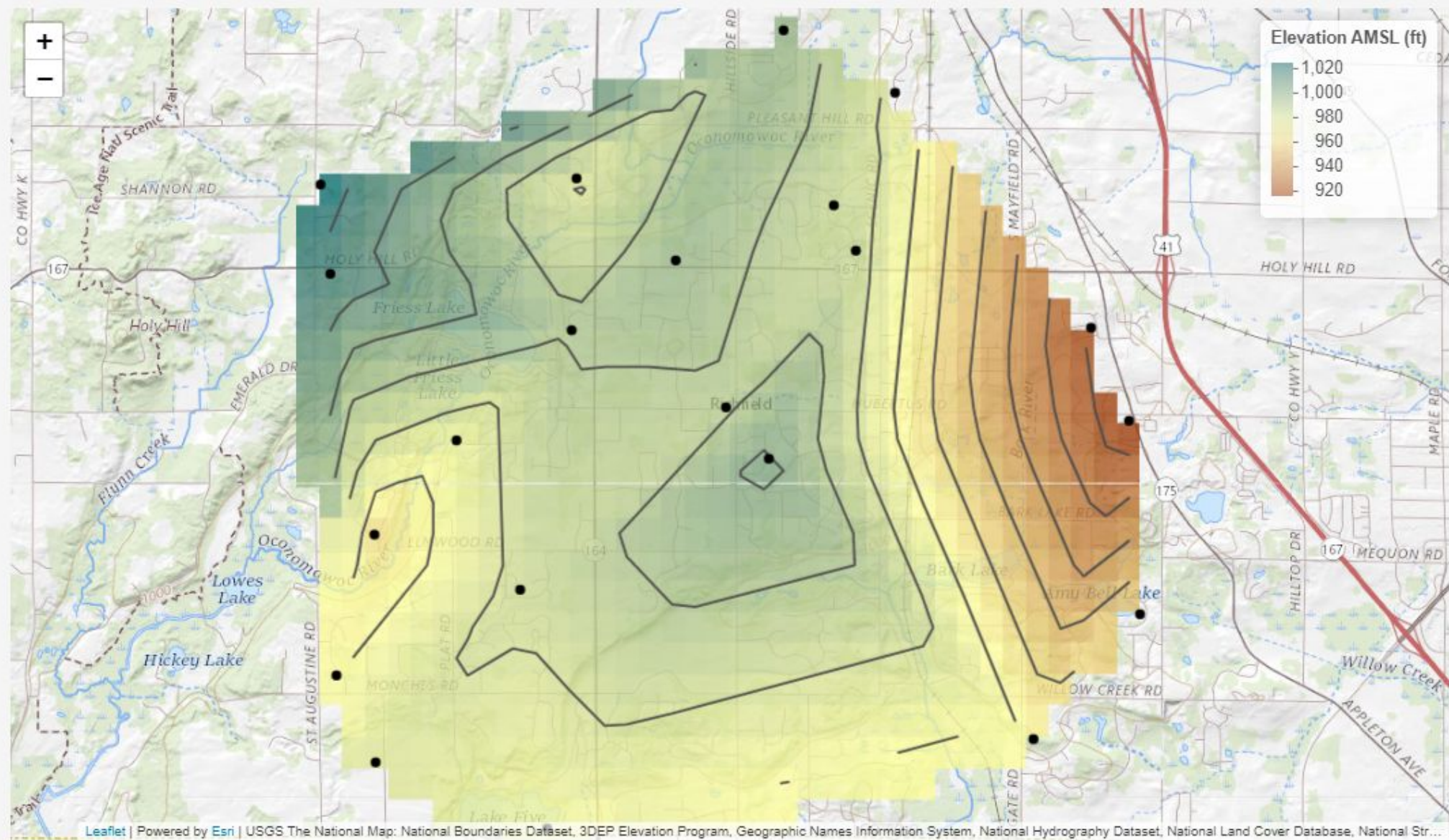


# Network View

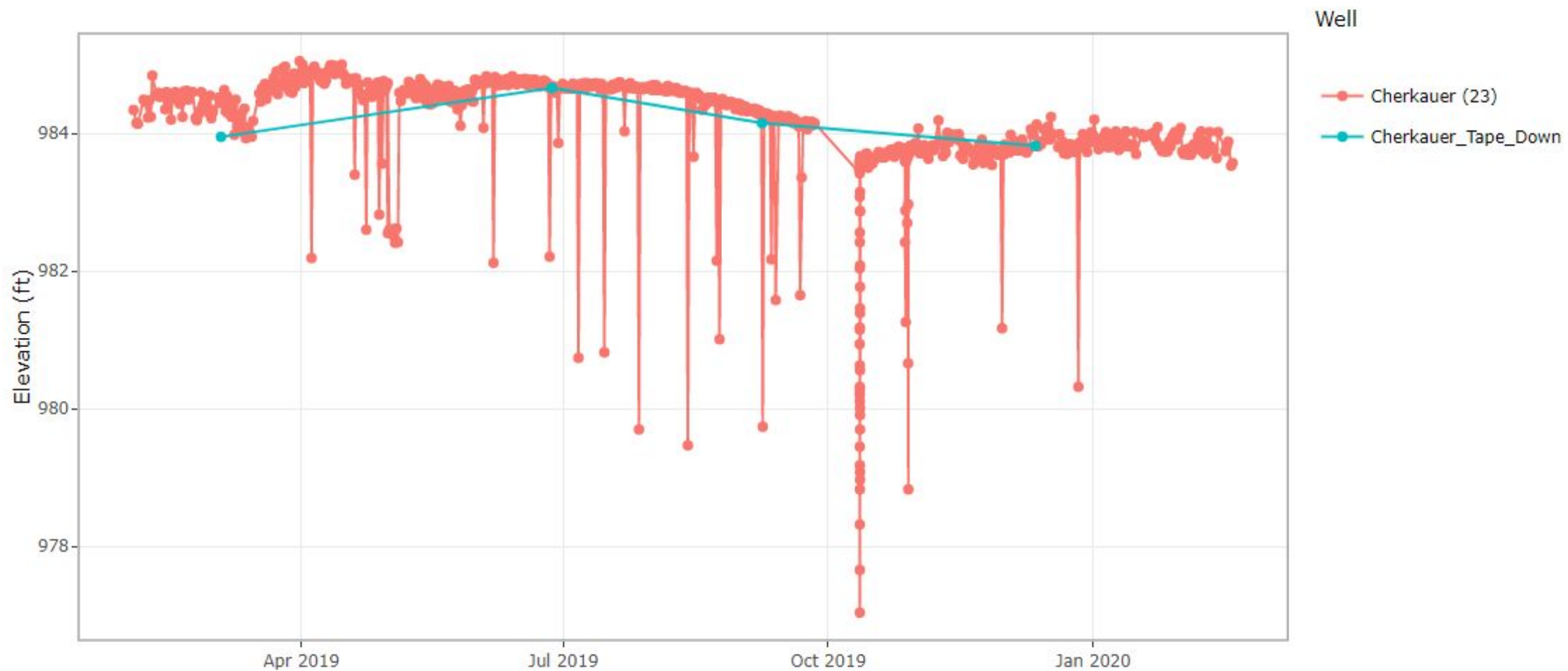




# Network View

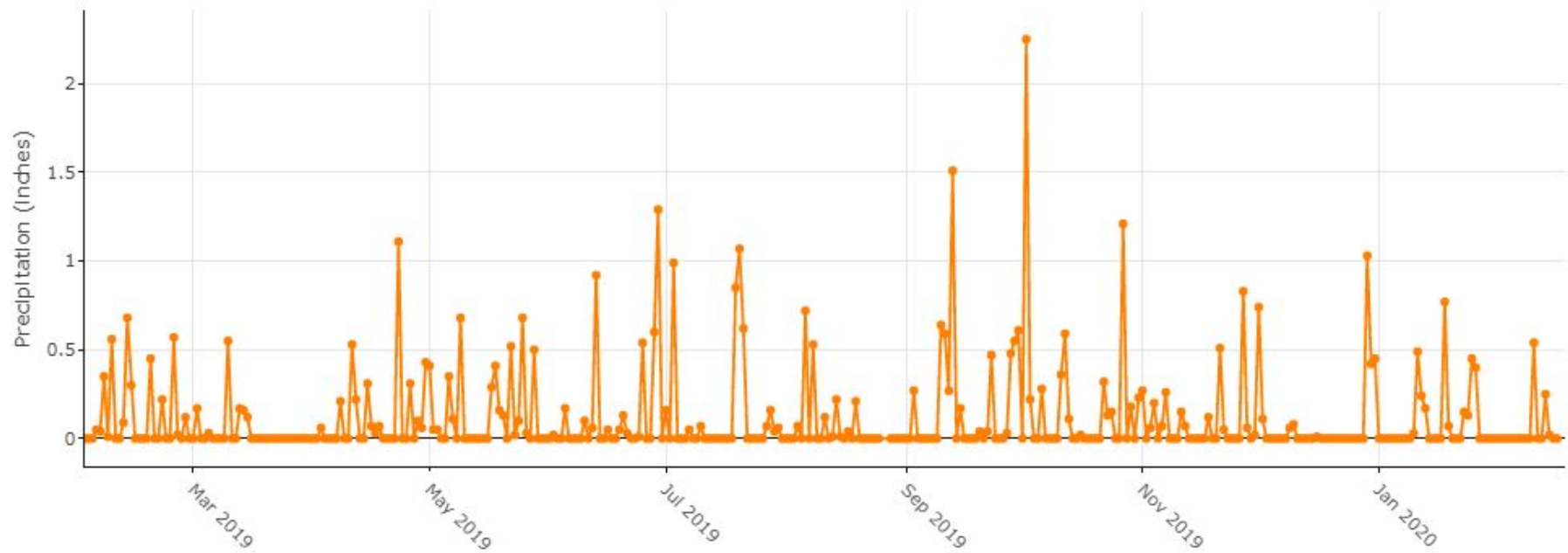
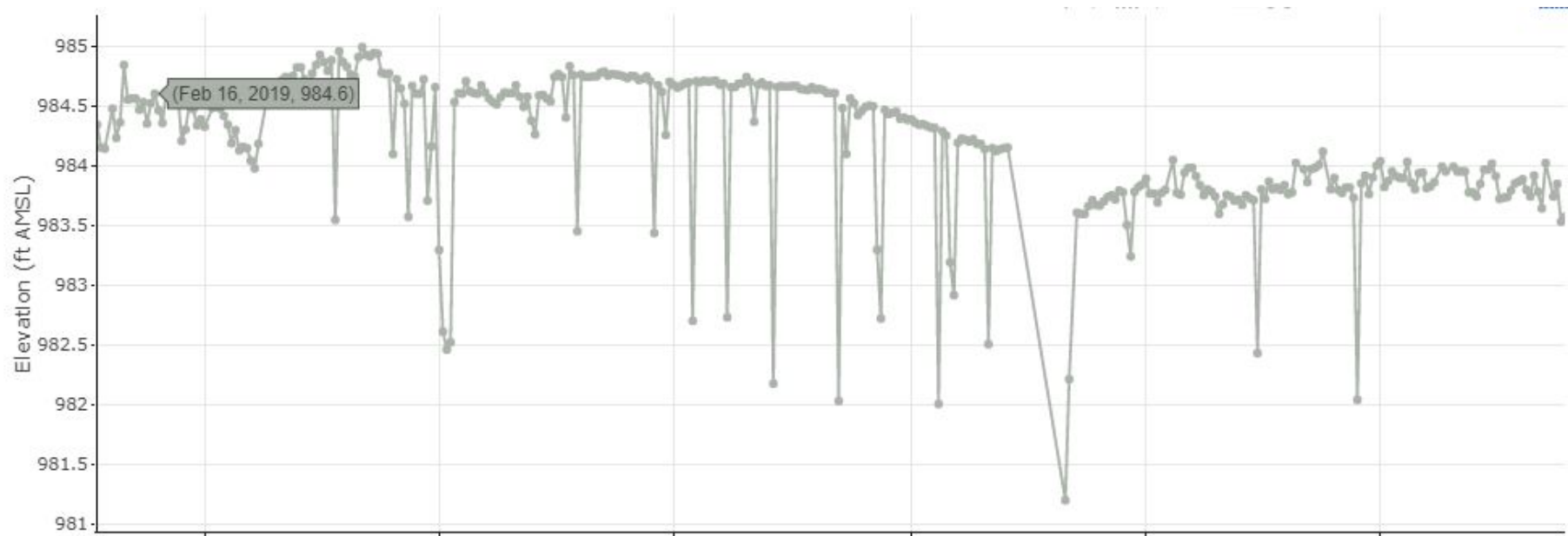


# Network View

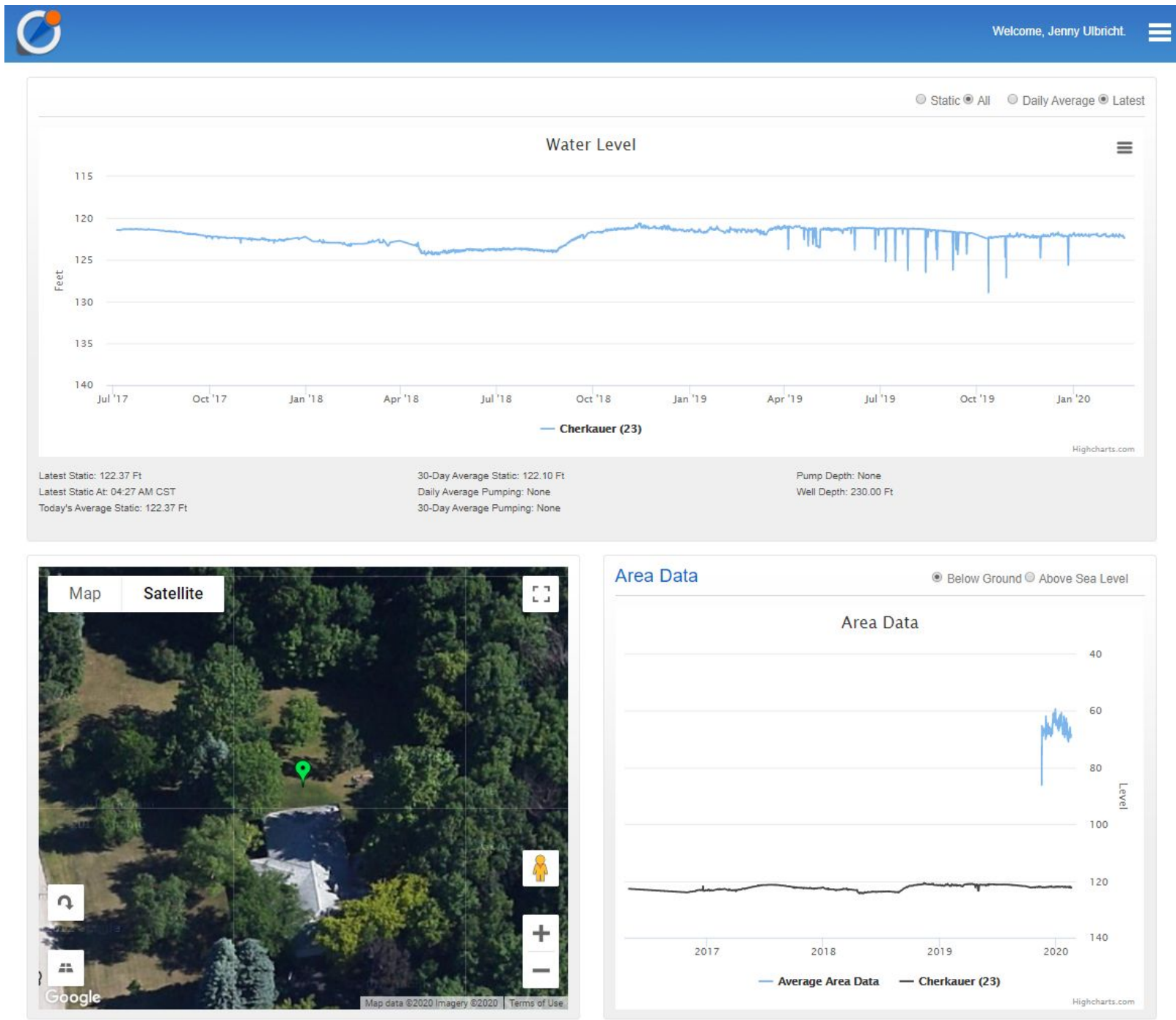




# Network View



# Well Owner View





# Well Owner View

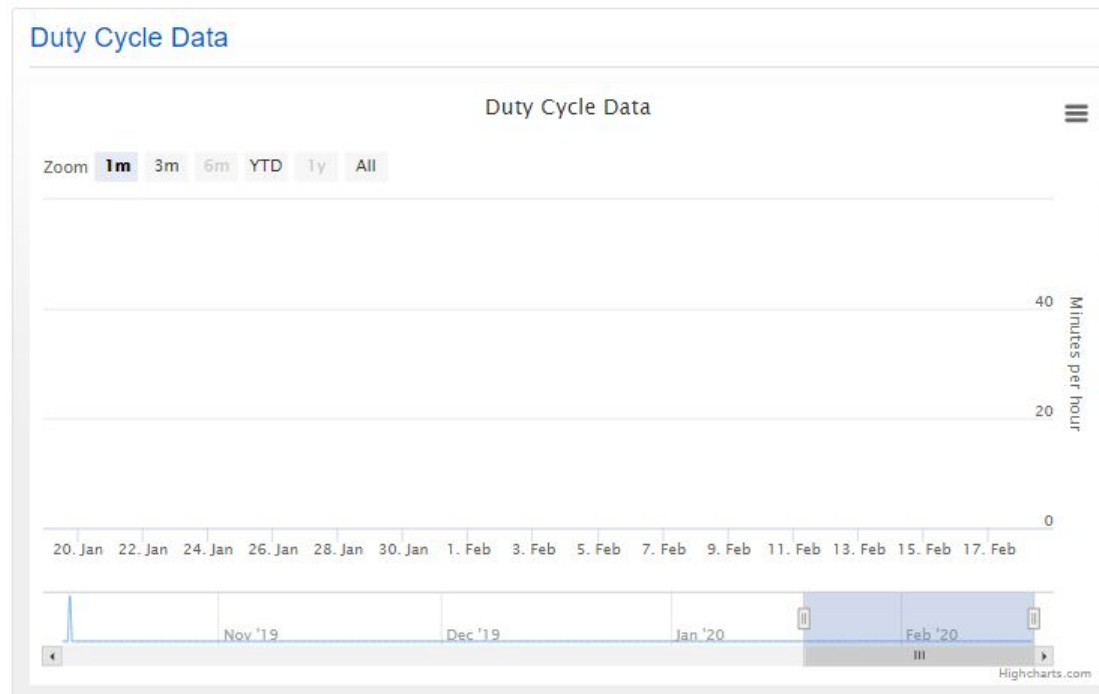
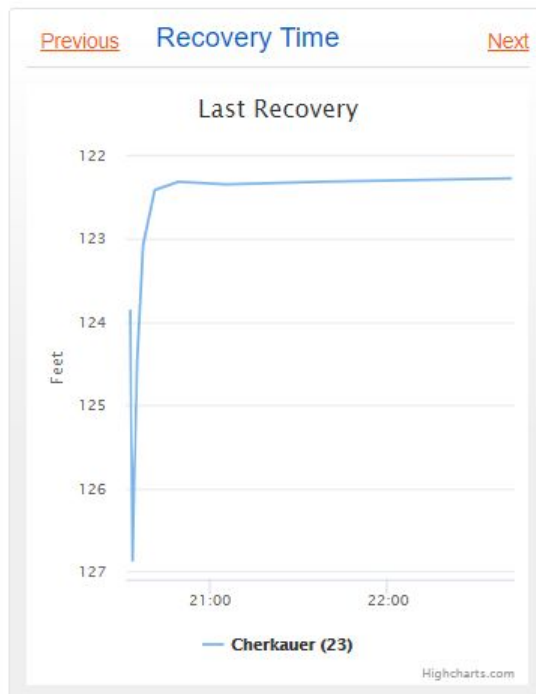


### Recent Telemetry

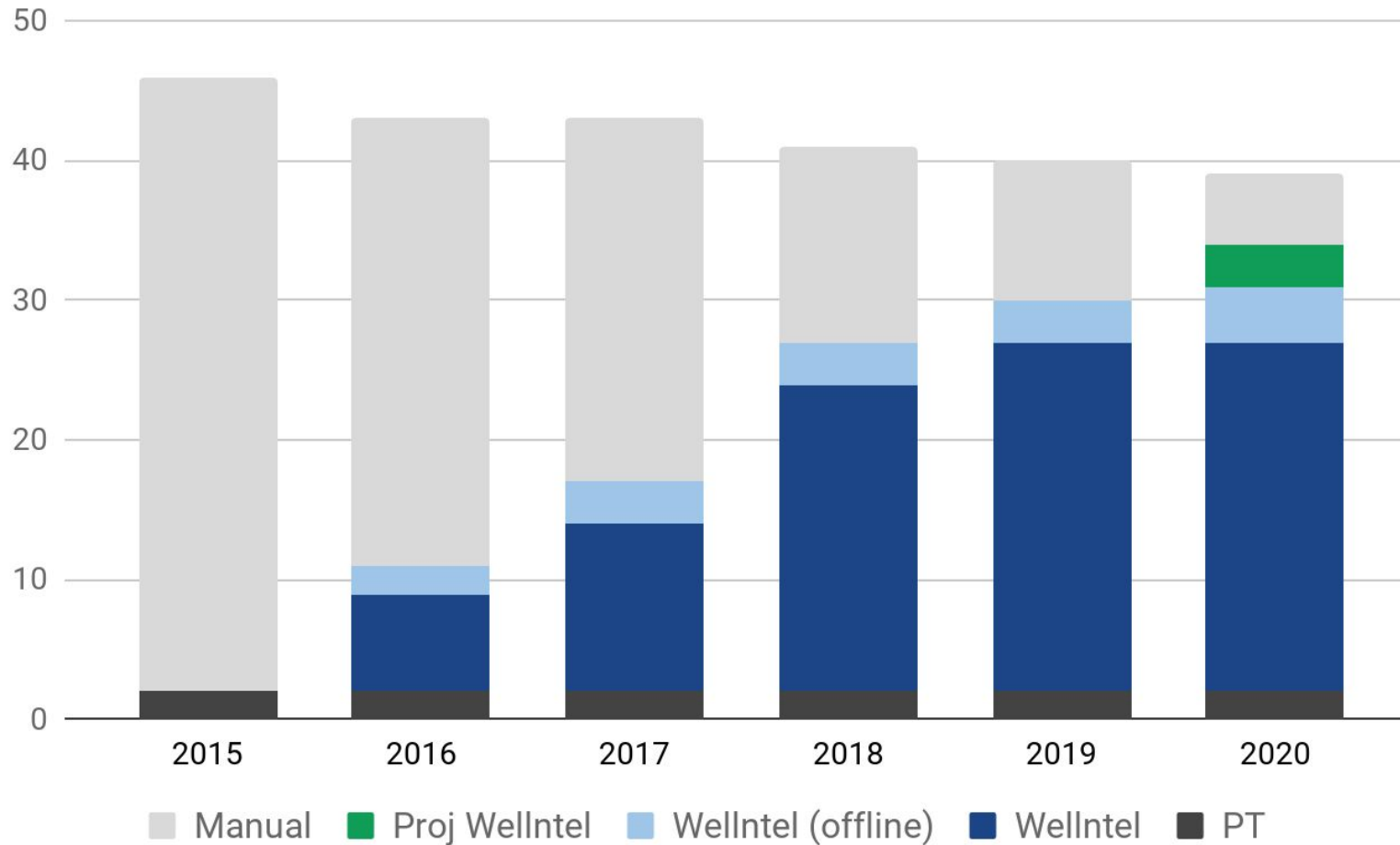
Refresh

As of: 2:52:14 PM today

Created	Received	Device	Duplicate	Signal Strength
2/18/20 2:27 PM	2/18/20 2:27 PM	Gateway		
2/18/20 1:27 PM	2/18/20 1:27 PM	Gateway		
2/18/20 12:26 PM	2/18/20 12:26 PM	Gateway		
2/18/20 11:29 AM	2/18/20 11:29 AM	Gateway		
2/18/20 10:29 AM	2/18/20 10:29 AM	Gateway		
2/18/20 9:29 AM	2/18/20 9:29 AM	Gateway		
2/18/20 8:29 AM	2/18/20 8:29 AM	Gateway		
2/18/20 7:29 AM	2/18/20 7:29 AM	Gateway		
2/18/20 6:29 AM	2/18/20 6:29 AM	Gateway		
2/18/20 5:28 AM	2/18/20 5:29 AM	Gateway		



## Where are we in the transition?



- Currently have 28 WellIntel systems - 25 with real-time upload and 4 logging with quarterly download
- Plan is to move 3 additional monitoring locations to real-time in 2020
- 2020 monitoring fleet = 39 locations



# WellIntel Operation and Maintenance Budget

		2019	2020
	Monitoring Locations	40	39
	Quarterly Visits	3	4
<b>Non-Discretionary</b>	WellIntel Field Visit: One time upgrade	\$2,500	-
	Network management and quarterly manual measurements	\$7,500	\$7,500
	Information Services	\$6,552	\$8,475
	Board Presentation and Well Owner letter	\$1,250	\$1,250
	<b>Total Non-Discretionary</b>	<b>\$17,802</b>	<b>\$17,225</b>
<b>Discretionary</b>	New Sensor Deployment	\$2,888	\$2,888
	Consumables	\$406	\$1,018
	<b>Total Discretionary</b>	<b>\$3,294</b>	<b>\$3,906</b>
<b>Total</b>		<b><u>\$21,096</u></b>	<b><u>\$21,131</u></b>

Questions, comments, feedback?

